REMARKS

1. Summary of Office Action

In the Office action mailed April 12, 2005, the Examiner rejected claims 1-11, 13-14, and

16-18 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,674,756 (Rao et al.).

The Examiner rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over Rao et al. in

view of U.S. Patent No. 6,477,166 (Sanzi et al.). The Examiner rejected claim 15 under 35

U.S.C. §103(a) as being unpatentable over Rao et al. in view of U.S. Patent No. 6,842,463

(Drwiega et al.) and U.S. Patent No. 6,535,507 (Li et al.).

2. Amendments and Pending Claims

Applicants have amended claims 1-3, 6-8, 11, and 13-18, have cancelled claims 4-5 and

9-10, and have added new claims 19-27. Claims 1-3, 6-8, and 11-27 are presently pending in

this application, of which claims 1, 6, 11, and 16-18 are independent.

3. Summary of the Rao et al. Reference

Rao et al. is directed to a multi-service network switch with multiple virtual routers. The

multi-service network switch comprises a Generic Forwarding Interface (GFI) that divides the

switch into drivers and applications. The applications register receiving functions with the GFI

to receive and process incoming packets. The drivers register forwarding functions with the GFI

to forward packets to a particular port and the GFI invokes the forwarding functions to forward a

packet to a physical port. The applications and drivers can be attached and detached dynamically

to provide flexibility to the ports of the switch. In this regard, the switch is not only capable of

processing different types of packets from different types of media, but is also capable of

forwarding the packets to any kind of media. Rao et al. indicates that the switch supports layer

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two tunneling protocol (L2TP) and *IP (layer three)* routing using a distributed processing and packet forwarding architecture. (Emphasis added).

4. Summary of the Claimed Invention

The claimed invention is directed to a distributed Multi-Protocol Label Switching (MPLS) architecture in which an LNS route server module functions in cooperation with an LAC ingress module to perform distributed processing of packets of information received at the LAC ingress module. The distributed processing occurs in response to the LAC ingress module receiving a distributed processing request sent from the LNS route server module. The distributed processing of the packets of information comprises (i) the LAC ingress module tunneling non-data packets received at the LAC ingress module to the LNS route server module via an L2TP tunnel established between the LAC ingress module and the LNS route server module, and (ii) performing MPLS processing of data packets received at the LAC ingress module and routing the MPLS processed data packets directly to a network without tunneling the MPLS data packets to the LNS route server module. Prior to the LAC ingress module receiving the distributed processing request, the LAC ingress module tunnels all received packets to the LNS route server module.

5. Response to the Examiner's Rejection under 35 U.S.C. § 102(e)

Applicants respectfully traverse the anticipation rejection of pending claims 1-3, 6-8, 11, 13-14, and 16-18 because Rao et al. does not disclose or suggest each and every element as recited in any of these claims. Applicants submit that the rejection of claims 4-5 and 9-10 is moot since these claims have been cancelled.

In rejecting claims 1, 6, 11, and 16-18, the Examiner indicated that Rao et al. discloses an ingress module comprising an LAC and that L2TP inherently includes an LAC and an LNS. In

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particular, Rao et al. discloses that the multi-network service switch supports a variety of layer two protocols including layer two tunneling protocol (L2TP) and that "a single port may support an L2TP for one session and a L2F for another session." (Col. 23, lines 56-58). However, Applicants submit that there is no indication in Rao et al. that the multi-network service switch comprises both an LAC and an LNS. Moreover, since L2TP inherently includes a tunnel between and an LAC and an LNS, and since Rao et al. does not disclose an LAC or an LNS, Applicants submit that the single port (that may support L2TP) of the multi-network service switch is a port that functions as an LNS (or an LAC) that performs one end of the L2TP tunneling. For these reasons, applicants submit that Rao et al. does not teach or suggest a system comprising both an ingress module comprising an LAC and a route server module comprising an LNS or a method of using both an ingress module comprising an LAC and a route server module comprising an LNS. Moreover, Rao et al. does not suggest that its multi-network service switch has an LAC/LNS pair that have an L2TP tunnel established there between.

Next in rejecting claims 1, 6, 11, and 16-18, the Examiner indicated that Rao et al. discloses that the ingress module forwards others of the plurality of packets of information to the route server module. In particular, Rao et al. discloses (i) when a packet arrives into the system through a media port, the driver associated with the media port receives the packet, (ii) the driver translates the packet into a generic format and is then passes the packet onto the system for processing by the applications, and (iii) when a packet is to be transmitted to a physical port, GFI invokes the appropriate driver's forwarding function to transmit the packet. (Col. 26, lines 46-57). And Rao et al. discloses all the packets which are to be forwarded to other cards within the switch are sent to the backplane driver. (Col. 27, line 67 to Col. 28, line 2).

However, claim 1 was amended to clarify that the ingress module forwards non-data packets of the plurality of packets of information to the route server module via an L2TP tunnel established between the LAC and the LNS, claims 6 and 16-18 were amended to recite forwarding non-data packets of the plurality of packets of information from the ingress module to the route server module via an L2TP tunnel established between the LAC and the LNS, and claim 11 was amended to recite the route server portion comprising an LNS, the route server portion receiving the negotiation packets from the ingress portion via an L2TP tunnel established between the LAC and the LNS. Applicants submit that although the multi-network service switch of Rao et al. supports L2TP, Rao et al. does not disclose the communication of packets between the ingress module and the route server module via an L2TP tunnel established between the LAC and the LNS, as recited in claims 1, 6, 11, and 16-18.

Next, in rejecting claims 1, 6, 11, and 16-18, the Examiner indicated that Rao et al. discloses a route server module sending a distributed processing request to the ingress module, and an ingress module receiving the distributed processing request. In particular, the Examiner indicated that a registration is the distributed processing request. Although Rao et al. teaches that (i) applications register functions to receive packets, (ii) drivers register functions to forward packets, and (iii) the registration of functions occurs at the GFI, Applicants submit that a "registration" is not a "distributed processing request" because a registration merely makes applications and drivers available for processing/forwarding of packets. However, in Applicants' invention, as set forth in the claims, the distributed processing request causes the LAC to begin MPLS processing to packets that would have otherwise been tunneled to the LNS. Rao et al. does not disclose this recited functionality, and indeed, as described above, does not even disclose the existence of the L2TP tunnel. Thus, Rao et al. does not anticipate the invention

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because it does not disclose a distributed processing request that causes an LAC (ingress module) to begin processing data packets of a plurality of packets received at the ingress module instead of merely tunneling the data packets (along with the non-data packets) of the plurality of packets to the route server module for processing of both the data packets and the non-data packets at the route server module.
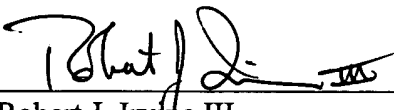
Moreover, Rao et al. does not teach or suggest, in response to receiving a distributed processing request, an LAC (ingress module) performing MPLS processing on data packets of the plurality of data packets received at the ingress module and routing the MPLS processed packets. In fact, Rao et al. does not disclose any MPLS processing of packets or any routing of MPLS processed packets, as recited in claims 1, 6, 11, and 16-18.

For these and potentially other reasons, claims 1, 6, 11, and 16-18 are allowable over Rao et al. Further, claims 2-3, 7-8, 12-15, and 19-27 depend from either claim 1, 6, or 13 and are also allowable over Rao et al. for at least the reason they are dependent on an allowable claim.

6. Conclusion

Applicants respectfully submit that claims 1-3, 6-8, and 11-27 are now in a condition for allowance, and respectfully request favorable reconsideration and prompt allowance of the claims. If the Examiner would like to discuss this case, the Examiner is encouraged to contact the undersigned at (312) 913-3305.

Respectfully submitted,

Date: July 12, 2005

By:_____
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